Patent claims

1. New expression cassette for expression of arbitrary genes in plant seeds, comprising
   - the promoter of the gene of the seed protein similar to the sucrose binding protein (SBP)
   - if applicable, the DNA sequence of a signal peptide, preferably the SBP signal peptide
   - a gene to be expressed
   - 3' termination sequences

2. Expression cassette according to claim 1, wherein it contains the SBPR promoter with the sequence corresponding to Fig. 1 without a DNA sequence of a signal peptide.

3. Expression cassette according to claims 1 and 2, wherein a further DNA sequence is downstream to the DNA region provided with a transcriptionally regulatory sequence for a strong seed-specific gene expression, the latter region containing the information for the formation and quantitative distribution of endogenous products or the expression of heterologous products in culture crops.

4. Expression cassette according to claims 1 to 3, wherein arbitrary foreign genes are integrated either as transcription or as translation fusions.

5. Expression cassette according to claims 1 to 4, wherein the signal peptide of the SBP seed protein gene is used as a signal peptide.

6. Expression cassette according to claims 1 to 5, wherein the gene of the sucrose binding protein like gene is used as the gene to be expressed.

7. Expression cassette according to claims 1-6, wherein it is also used for co- and multiple transformations.

8. Plasmids containing an expression cassette according to claims 1-5.

9. Plasmid pSBPROCS, comprising a DNA sequence about 5.3 kB in size, in which a SalI promoter fragment of the regulatory starter area about 1.9 kb in size including the signal peptide and 5 triplets of the SBP-homologous gene of Vicia~faba, restriction sites for cloning in foreign genes and the transcription terminator of the octopine synthase gene are contained.

10. Plasmid pPTVSBPRGUS, comprising a DNA sequence about 14.9 kb in size, in which a phosphinothricin resistance gene about 1 kb in size, a SalI/NcoI promoter fragment of the regulatory starter area of the SBP-like gene of Vicia faba about 1.8 kb in size, the coding region of the ß-glucuronidase about 1 kb in size and the transcription terminator of the octopine synthase gene are contained.

11. Method for the insertion of an expression cassette with a DNA sequence for strong seed-specific gene expression into a plant cell, comprising the following steps:

a) isolation of clone VfSBP20, wherein the gene coding for the SBP seed protein occurring in the plant seed is selected from a cDNA Bank of cotyledons of Vicia faba,

b) isolation of clone pSBPR15, wherein the DNA sequence contained therein comprises the regulatory starter region of the SBP seed protein gene of Vicia faba and a sequence from a related legume hybridising with the DNA sequence of the SBPR15,

c) production of the plasmid pSBPOCS making use of the SalI fragment of plasmid pSBPR15 1.9 kb in size,

d) integration of foreign genes into the pSBPOCS expression cassette,

e) cloning of the expression cassette containing a DNA sequence for over-expression of foreign genes in plant seeds, into binary vectors

f) transfer of the expression cassette containing an foreign gene under the control of the SBPR promoter into a plant cell.

12. Use of an expression cassette according to claims 1 to 7 for expression of homologous and heterologous genes in the seeds of transformed plants.

13. Use of an expression cassette according to claims 1 to 7 for expression of genes changing the storage capacity or the germination capability of seeds.

14. Use of the plasmids pBISBPR7, pBISBPR15, pSBPGUS, pPTVSBPRGUS and pSBPOCS or derivatives thereof for transformation of culture crops.

15. Use of the plasmids pBISBPR7, pBISBPR15, pSBPGUS, pPTVSBPRGUS and pSBPOCS or derivatives thereof for regulation of endogenous processes or for production of heterogenous products in culture crops.

16. Use of an expression cassette according to claims 1 to 7, wherein the transformed plants expressing new gene products or ones altered in the seeds are selected, genetically stable lines are bred and the gene products are extracted from the seeds of the transgenic plants.

17. Plant cell containing a plasmid according to claims 8 - 10.

18. Plant cell produced according to the method of claim 11.

19. Plant or plant tissues regenerated from a plant cell according to claims 12 or 13.

20. Plant according to claim 14, wherein it is a culture crop.